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ATOMIC ENERGY ACT OF 1954
DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON 25, D.C.



REPLY TO
ATTN OF: AFRDC-AE

9 February 1962


SUBJECT: Twining Committee Report on Military Implications of 1961
Soviet Nuclear Tests

TO: Honorable McGeorge Bundy
Special Assistant to the President
The White House
Washington 25, D. C.


Dear Mr. Bundy:

General Twining has requested that I forward his attached memorandum, with inclosure from Dr. Hans A. Bethe, for you to affix to your copy (#40) of subject report.

Sincerely,


OLA P. THORNE
Colonel, USAF
Committee Executive Officer

1 Atch
Memo, 6 Feb 62
w/1 Incl (cy #40)

DECLASSIFIED
E.O. 12958, Sec. 3.6
NLK-93-96/40
By  NARA, Date 1/11/57

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If inclosures are withdrawn or not attached, the classification of this correspondence will be downgraded to Unclass in accordance with paragraph 37b, AFR 205-1

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6 February 1962

MEMORANDUM TO MEMBERS OF THE TWINING COMMITTEE
FOR STUDY OF THE MILITARY IMPLICATIONS OF 1961 SOVIET
NUCLEAR TESTS

1. The report which our Committee prepared has been transmitted to the Chief of Staff, USAF and from his office to the members of the Joint Chiefs of Staff and to higher authority through appropriate channels.
2. You will recall that during our last meeting in Washington on January 2, 3 and 4, we conducted an exhaustive line-by-line word-by-word, review of the complete report. When we completed our work on 4 January the Committee was in unanimous agreement with the report which was delivered to the Chief of Staff, USAF, on 11 January 1962.
3. However, at a later date I received information that Dr. Hans Bethe wished to file a minority judgment with respect to certain parts of the report. I am complying with his request to forward his 26 January 1962 minority view for attachment to all copies of the report.
4. I have instructed the Committee Executive Officer, with the Chief of Staff's approval, to forward Dr. Bethe's minority report, along with a copy of this letter, to all recipients of the report.
5. This correspondence completes the action of the Committee. I am personally grateful for your unselfish contribution of time and energy to this effort.

Encl:
Memo for Gen. Twining
From Dr. Hans A. Bethe
dated 26 January 62

Nathan F. Twining
NATHAN F. TWINING
General, USAF (Retired)
Chairman of the Committee

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January 26, 1962

MEMORANDUM TO GENERAL N. F. TWINING

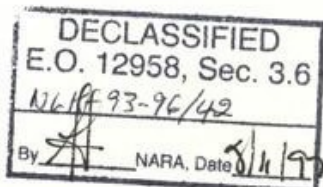
Subject: Twining Committee Report on Military Implications

When reading the complete report of your Committee on Military Implications of 1961 Soviet Nuclear Tests, I was again reminded of the wide divergence of opinion between the majority of the Committee and myself. While the Committee itself is aware of this divergence of opinion, other readers of the report may not be. Therefore, I consider it necessary to state explicitly where I agree and where I disagree with the report. I should like these comments to be appended to the report.

The main point of disagreement is on the general tone of the document. This tone is exemplified by the sentence on page 1 -- "the implications for our national security are alarming in the extreme". While I fully recognize the great technical progress of the USSR, both in nuclear weapons and otherwise, I do not feel a sense of alarm. I still believe that our plans for an invulnerable missile force are sound, and need modification only in details. When we have both land based hardened missiles and Polaris I believe our forces will be adequately safe against surprise attack by the Soviet Union, and this conclusion has not been changed in any essential way by the recent Russian tests. In the interim period before we have hardened missile bases, we already have Polaris. Moreover, the present size of the Soviet missile forces appears to be still small enough to constitute no acute danger.

While I thus disagree with the general tone of alarm of the document I agree with many of the conclusions and recommendations, though not with all. I shall list these in detail, referring to Section V of the report:

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2

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To: Gen. N. F. Twining

January 26, 1962

a. Strategic Forces

I agree with all the studies recommended in this section. I do not agree with the discussion, nor with some of the first paragraph. In particular, I think it would be very dangerous to use projected increases in the yield to weight ratios for the planning of our future missiles until there is much firmer assurance than at present that such increases can actually be achieved.

b. Improvement in Tactical Nuclear Capability

I agree with the discussion except for the last sentence which is out of our control. I do not believe that the Soviet progress necessarily indicates new demands for U. S. tactical equipment.

c. Penetration Aids and AICBM

I strongly agree with recommendations (1) to (3). In recommendation (4) I agree that the Kwajalein tests should be pursued with vigor, but I do not agree that these need to include weapon effects tests.

d. Satellite Neutralization

I mildly agree with the recommendation if it can be carried out without diverting appreciable funds from more important military developments. I do not agree with the discussion. In particular, I do not see any likely threat from bombs placed in orbit. On the other hand I consider it important to preserve our ability to use observation satellites.

e. Penetration of Soviet Secrecy Barriers

Again I agree with the recommended action if it is feasible at tolerable expense. In this case, I also agree with the discussion.

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January 26, 1962

f. Fissile Materials

I believe the problem of expansion of production of these materials should be carefully studied. Without such a study I cannot endorse the recommendation for production increases. From my limited information it seems to me that an increase in production of plutonium is more necessary than for U²³⁵. While I agree with much of the discussion here, I believe that the stockpile of fissile materials may be large enough to satisfy reasonable demands for additional weapons.

g. Weapons Effects Laboratory

I strongly agree with the recommendation of establishing a Weapons Effects Laboratory. This is one of the main reasons for my signing the report.

h. Nuclear Proving Ground

If atmospheric nuclear testing is resumed, I think it is technically desirable to have a permanent proving ground with permanent installations. I do not agree that its capacity should be as large as Eniwetok and Bikini combined, but a capacity equivalent to, at the most, one of these previous test grounds seems to me sufficient.

i. Nuclear Testing

I am afraid these recommendations might be interpreted to open the door to unlimited testing both in number and yield of weapons. I strongly disagree with such an interpretation.

Development tests seem to me desirable but not a "must". I am quite skeptical of the possibility of the 200 lb., 1 MT warhead. I believe development tests should be used sparingly and only in the lower weight classes.

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On effects tests, I agree strongly with recommendation (1). With recommendation (2) I agree only if this can be done without actual explosion of multimegaton weapons. If (3) refers to fire-storm and tidal wave I think it is included in (2). If it refers to Howitzer and similar devices I am mildly in favor.

On operational systems, I strongly agree with recommendation (2), and I agree with recommendation (3) through the phase of explosion of the primary. I strongly disagree with recommendation (1), and I do not remember that this recommendation was discussed during the meeting.

On other nuclear tests, I agree with the recommendations (1), (2) and (4). Recommendation (3) is perhaps desirable but not mandatory.

j. Nuclear Test Ban

I still agree with the opinion expressed here.

k. Technological Superiority

I agree with the recommendation but not with the tone of the discussion.

Turning now to the discussion in Sections I and IV, my main objection is to the alarmed tone of the discussion, rather than with any details. In particular, I take exception to the last paragraph on page (1), and to most of the discussion in Sections III and IV. Section II is to a large extent a paraphrase of the report of the Foreign Weapons Evaluation Group, and is acceptable to me to the extent that it is in agreement with that report.

There are some detailed remarks on Section II as follows: on page 5, Section (c), I do not agree that the Soviets have progressed to a status equal to our own in small weapons technology. As far as we can tell their

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technology on weapons of small diameter, under 17 inches, is still in its infancy.

In Section II (d), I do not agree with the flavor. In my opinion the probability of development of practical, light weight, economical, purely thermo-nuclear devices is extremely small, and this small probability should be borne in mind when pointing out the possible effect of such devices on warfare.

In II (e), I consider it very unlikely that the Russians have obtained useful data on the electromagnetic pulse effects on instrumented hardened sites which could be useful in an attack on our sites. In II (g), the economy is not "amazing" but rather similar to our own whenever we do not add extra U^{235} to increase the yield. In II (h), I have not changed my opinion that there is no good evidence for Soviet clandestine tests during the moratorium. In II (i), I do not agree with the paragraph at the bottom of page 9.

(signed)

HANS A. BETHE

HAB:br

Distribution:

- 1A - Gen. Twining
- 2A - Dr. Wiesner
- 3A - Dr. Bethe

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